

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

-----In the Matter of-----) DOCKET NO. 2008-0273
)
PUBLIC UTILITIES COMMISSION)
)
Instituting a Proceeding to)
Investigate the Implementation of)
Feed-in Tariffs.)
_____)

THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S
RESPONSES TO THE PUBLIC UTILITIES COMMISSION'S INFORMATION
REQUESTS

AND

CERTIFICATE OF SERVICE

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PUBLIC UTILITIES
COMMISSION

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RESPONSES TO THE PUBLIC UTILITIES COMMISSION'S INFORMATION
REQUESTS**

The Department of Business, Economic Development, and Tourism ("Department" or "DBEDT"), by and through its Director ("Director") in his capacity as the Energy Resources Coordinator, and through the undersigned Deputy Attorney General, hereby submits to the Hawaii Public Utilities Commission ("Commission" or "PUC") its responses to the Commission's information requests (IRs) issued on March 2, 2009.

**Questions for the Department of Business, Economic Development,
and Tourism**

40. Please describe all biomass generators in Hawaii. For each, provide the capacity, feedstock, location, and if they are dispatchable and curtailable or not.

DBEDT RESPONSE:

The following Table is a summary of the biomass generators in Hawaii.

Name	Capacity	Feedstock	Location	Dispatchable / curtailable
Gay & Robinson	Nameplate capacity 4 MW biomass + 1.2 MW hydro. Maximum export 2.5 - 3 MW. During operation, usually import 2 MW.	Sugarcane bagasse only.	Kaunakani, Kauai	No
Hawaiian Commercial and Sugar (HC&S)	Nameplate capacity 44 MW; 30 MW available for export. Contract for 12 MW on peak, 8 MW off peak.	Sugarcane bagasse; supplemental used fuel oil and coal	Puunene, Maui	Dispatchable up to 16 MW if needed
H-POWER	Nameplate capacity 58 MW; 46 MW available for export	Municipal solid waste	Kapolei, Oahu	Curtailable

41. With the support of an FiT, based on Hawaii's forestry and agricultural resources, to what extent in MWs and where would developers likely build additional biomass generators?

DBEDT RESPONSE:

DBEDT does not have definitive information at this time.

A Bioenergy Master Plan is currently being developed pursuant to Act 253, Session Laws of Hawaii 2007, which will provide

relevant information relating to the development of biofuels for electricity generation. The Plan is partly funded by the U.S. Department of Energy as part of the Hawaii Clean Energy Initiative (HCEI), and is targeted for completion at the end of 2009.

42. With the support of an FiT, based on Hawaii's forestry and agricultural resources, to what extent in MW and in what locations would sub-1 MW biomass generators, including those using livestock feedstocks and anaerobic digestion, likely be developed?

DBEDT RESPONSE:

Please see DBEDT's response to PUC's IR no. 41 above.

43. Please estimate the potential market for both small (sub-1 MW) and large biomass facilities on each island. Provide the total MWs of capacity, size of likely systems, and the types of feedstocks.

DBEDT RESPONSE:

DBEDT does not have supportable and verifiable information to use to provide the requested estimates at this time.

44. According to DBEDT's website <http://hawaii.gov/dbedt/info/energy/renewable/geothermal>), "Currently, the state's policy supports geothermal energy production on the Big Island exclusively for use on that island." Please describe the reasons for the state supporting the development of geothermal power only on the Big Island for use on that island.

DBEDT RESPONSE:

This policy evolved in the early 1990s as a result of legal challenges to the Hawaii deep water cable project known as the Hawaii Geothermal Project, which was proposed as a method to

transmit geothermal-produced electricity from Hawaii through Maui County and ultimately to Oahu. At the time, the geothermal resource in Puna had been demonstrated by a 3MW pilot HGP-A well and power plant, which was a joint government, private sector and academic project. Due to optimistic estimates of the geothermal power potential of Kilauea's East Rift Zone, which ranged from several hundred to over 1000 MW, and greatly exceeded the Big Island's needs, there was interest in exporting the electricity to Oahu.

From 1982 through early 1990, a large-scale 500 megawatt geothermal/interisland submarine cable project was under consideration. About \$26 million (Federal and State funding) was expended in studies, design, engineering, and testing for the Hawaii Deep Water Cable Project.

While it appeared that an interisland geothermal cable project would be a benefit for the State, there were significant legal challenges to the project that brought in both state and federal courts. As a result, a federal EIS was required, and an injunction was issued to prevent further disbursement of funds for the project.

A State circuit court lawsuit calling for preparation of a State EIS was filed by the Sierra Legal Defense Fund against the State of Hawaii. The lawsuit was dismissed in February 1995 upon execution of a Settlement Agreement which established terms

for termination of the interisland cable project. In December 1992, the State issued a Geothermal Energy Policy Statement that "The State of Hawaii currently supports geothermal energy as a potential energy source exclusively for the Island of Hawaii."

45. Are there known geothermal resources in Hawaii outside the Big Island? If so, please describe where such resources are located and their quality and accessibility.

DBEDT RESPONSE:

There is only one Known Geothermal Resource Area (KGRA, a US Geological Survey designation) in Hawaii, the Kilauea East Rift Zone. However, there have been repeated assessments of geothermal energy resources and reserves performed for the State of Hawaii. They are posted on DBEDT's energy website, www.hawaii.gov/dbedt/info/energy/publications.

The most recent report, *Assessment of Energy Reserves and Costs of Geothermal Resources in Hawaii*, was completed in 2005 by GeothermEx for DBEDT. Table 1.1 of the report lists the probabilities of finding both high-temperature and low-temperature geothermal resources in Hawaii. High-temperature resources are generally needed for electricity production, while lower temperatures may be useable for non-electric applications (e.g., drying agricultural commodities, aquaculture, or soil pasteurization.)

According to the report, there are seven geothermal


resource areas in Hawaii with "significant" potential for electrical generation. Five of the seven are on the Big Island, and the other two are the Haleakala Southwest Rift Zone and the Haleakala East Rift Zone on Maui.

46. Please list and describe all operational geothermal projects in Hawaii. Please provide their locations, in-service dates, and size in kW.

DBEDT RESPONSE:

There is only one geothermal power plant in Hawaii, operated by Puna Geothermal Venture. It is located in the Pohoiki area of Puna District, County of Hawaii, east of Pahoia, and began commercial production in 1993. The plant is nominally rated at 30 MW.

DATED: Honolulu, Hawaii, March 16, 2009.



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Certificate of Service

I hereby certify that I have served a copy of the response to the Public Utilities Commission's information requests issued on March 2, 2009.

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